

**NEW SOURCE CONSTRUCTION PERMIT
and MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR QUALITY**

**Modern Materials, Inc.
435 State Road 25 North
Rochester, Indiana 46975**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 049-13642-00020	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: May 14, 2001

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates an automotive coater operation.

Authorized Individual: Ms. Samantha Goodman
Source Address: 435 State Road 25 North, Rochester, Indiana 46975
Mailing Address: 400 East 4th Street, Rochester, Indiana 46975
Phone Number: (219) 223-4509
SIC Code: 3479
County Location: Fulton
County Status: Attainment for all criteria pollutants
Source Status: Minor Source, under PSD or Emission Offset Rules;
Minor Source, Section 112 of the Clean Air Act

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

- (a) One (1) natural gas-fired boiler, designated as MM-1, with a maximum heat input capacity of 4.18 mmBtu/hr and exhausts to a stack designated as Stack #1.
- (b) One (1) natural gas-fired powder coat curing oven, designated as MM-2, with a maximum heat input capacity of 0.850 mmBtu/hr and exhausts to a stack designated as Stack #17.
- (c) Two (2) natural gas-fired powder coat curing ovens, designated as MM-3 and MM-4, with a maximum heat input capacity of 1.2 mmBtu/hr each and exhaust to stacks designated as Stack #18 and Stack #19.
- (d) One (1) natural gas-fired powder coat curing oven, designated as MM-5, with a maximum heat input capacity of 0.350 mmBtu/hr and exhausts to a stack designated as Stack #6.
- (e) Three (3) natural gas-fired powder coat curing ovens, designated as MM-6, MM-7, and MM-9, with a maximum heat input capacity of 0.5 mmBtu/hr each and exhaust to stacks designated as Stack #8, Stack #9, and Stack #12.
- (f) Two (2) natural gas-fired drying ovens, designated as MM-8 and MM-11, with a maximum heat input capacity of 0.5 mmBtu/hr each and exhaust to stacks designated as Stack #10 and Stack #15.
- (g) One (1) natural gas-fired flash-off oven, designated as MM-10, with a maximum heat input capacity of 0.50 mmBtu/hr and exhausts to a stack designated as Stack #13.
- (h) Four (4) aluminum oxide blast units, designated as MM-22 through MM-25, with actual density of 130 pounds per cubic foot, MM-22 through MM-24 each have a nozzle with an internal diameter of 4/16 inches and MM-25 has a nozzle with an internal diameter of 5/16 inches, each controlled by a baghouse (designated as B-1, B-2, B-3 and B-7) and exhaust internally.

- (i) Three (3) five-stage* zinc phosphate lines with a total approximate maximum capacity of 8,040 pounds per hour and exhaust to the atmosphere. One (1) five-stage* iron phosphate line with a total approximate maximum capacity of 8,040 pounds per hour and exhaust to the atmosphere.

* a standard five-stage line consists of the following stages: Alkaline wash, pressure Rinse, Phosphate, Pressure Rinse, Seal.

- (j) One (1) natural gas-fired heat cleaning burn-off oven, designated as MM-26, with a maximum heat input capacity of 2.0 mmBtu/hr, a maximum waste capacity of 55 pounds per hour and exhausts to the atmosphere.
- (k) One (1) hand solvent wash area, designated as MM-27 and exhausts to the atmosphere.
- (l) Three (3) "Job Shop Line" HVLP paint booths, designated as MM-13 through MM-16, with a total maximum paint usage rate of 0.188 gallons per hour, particulate matter controlled by dry filters and exhaust to stacks designated as Stack #2 through Stack #5.
- (m) One (1) "Regular Shaft Line" HVLP paint booth, designated as MM-12, with a maximum paint usage rate of 0.206 gallons per hour, particulate matter controlled by a dry filter and exhausts to a stack designated as Stack #16.
- (n) One (1) "Flanged Shaft Line" HVLP paint booth, designated as MM-17, with a maximum paint usage rate of 0.342 gallons per hour, particulate matter controlled by a dry filter and exhausts to a stack designated as Stack #11.
- (o) One (1) "Frame Line" HVLP paint booth, designated as MM-18, with a maximum paint usage rate of 1.00 gallons per hour, particulate matter controlled by a dry filter and exhausts to a stack designated as Stack #14.
- (p) Three (3) powder coat booths, designated as MM-19 through MM-21, each containing an integral recirculation system consisting of a baghouse and exhausts internally.
- (q) One (1) CTO evaporator, designated as MM-27, used to evaporate the water from the aqueous lines to minimize liquid waste and exhausts to a stack designated as Stack #20.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled "Minor Source Operating Permit", all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section.
 - (1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (2) If the Affidavit of Construction does not verify that the facilities covered in this Construction Permit were constructed as proposed in the application, then the Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section prior to beginning operation of the facilities.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual

phase.

- (c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.
- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).
- (e) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

- (a) The total source potential to emit of PM and PM₁₀ is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.
- (b) Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAQ prior to making the change.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAQ, upon request and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)].

C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.8 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.9 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

Testing Requirements

C.10 Performance Testing [326 IAC 3-6]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAQ within forty-five (45) days after the

completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.11 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.12 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.13 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:
- (1) This condition;
 - (2) The Compliance Determination Requirements in Section D of this permit;
 - (3) The Compliance Monitoring Requirements in Section D of this permit;
 - (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and
 - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ,. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of :
 - (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and
 - (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan,

shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

- (c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:
 - (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;
 - (3) An automatic measurement was taken when the process was not operating; or
 - (4) The process has already returned to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAQ shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAQ within thirty (30) days of receipt of the notice of deficiency. IDEM, OAQ reserves the authority to use enforcement activities to resolve noncompliant stack tests.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.15 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3)

years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.

- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39].

C.16 Annual Emission Statement [326 IAC 2-6]

- (a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:
 - (1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);
 - (2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.
- (b) The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.17 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the

equipment is operating at normal representative conditions.

- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.18 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;

- (3) All calibration and maintenance records;
- (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.19 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Quarterly Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) A malfunction as described in 326 IAC 1-6-2; or
 - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.

- (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.20 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Data Section, Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Three (3) five-stage* zinc phosphate lines with a total approximate maximum capacity of 8,040 pounds per hour and exhaust to the atmosphere. One (1) five-stage* iron phosphate line with a total approximate maximum capacity of 8,040 pounds per hour and exhaust to the atmosphere.

* a standard five-stage line consists of the following stages: Alkaline wash, pressure Rinse, Phosphate, Pressure Rinse, Seal.

One (1) hand solvent wash area, designated as MM-27 and exhausts to the atmosphere.

Three (3) "Job Shop Line" HVLP paint booths, designated as MM-13 through MM-16, with a total maximum paint usage rate of 0.188 gallons per hour, particulate matter controlled by dry filters and exhaust to stacks designated as Stack #2 through Stack #5.

One (1) "Regular Shaft Line" HVLP paint booth, designated as MM-12, with a maximum paint usage rate of 0.206 gallons per hour, particulate matter controlled by a dry filter and exhausts to a stack designated as Stack #16.

One (1) "Flanged Shaft Line" HVLP paint booth, designated as MM-17, with a maximum paint usage rate of 0.342 gallons per hour, particulate matter controlled by a dry filter and exhausts to a stack designated as Stack #11.

One (1) "Frame Line" HVLP paint booth, designated as MM-18, with a maximum paint usage rate of 1.00 gallons per hour, particulate matter controlled by a dry filter and exhausts to a stack designated as Stack #14.

Three (3) powder coat booths, designated as MM-19 through MM-21, each containing an integral recirculation system consisting of a baghouse and exhausts internally.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the spray booths designated as MM-12 through MM-18, shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried and extreme performance coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

D.1.2 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) from the six (6) paint booths (designated as MM-12 through MM-18) and the three (3) powder coat booths (designated as MM-19 through MM-21), shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Compliance Determination Requirements

D.1.3 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test the emissions' units by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions' units are in compliance. If testing is required by IDEM, compliance with the VOC and PM limits specified in Condition D.1.1 and D1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.4 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitation contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.5 VOC Emissions

Compliance with Condition D.1.1 shall be demonstrated within 30 days of the end of each day based on the total volatile organic compound usage for the most recent day.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.6 Particulate Matter (PM)

- (a) The dry filters shall be in operation at all times when the six (6) paint booths (designated as MM-12 through MM-18) are in operation.
- (b) The baghouses, which are part of the integral recovery system, shall be in operation at all times the powder coat booths (designated as MM-19 through MM-21) are in operation.

D.1.7 Monitoring

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (S5, S11, S14 and S16) while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.8 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.1, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limit established in Condition D.1.1.
 - (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) The VOC content of the coatings used for each day;
 - (3) The cleanup solvent usage for each day;
 - (4) The total VOC usage for each day; and
 - (5) The weight of VOCs emitted for each compliance period.
- (b) To document compliance with Condition D.1.7, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

One (1) natural gas-fired boiler, designated as MM-1, with a maximum heat input capacity of 4.18 mmBtu/hr and exhausts to a stack designated as Stack #1.

One (1) natural gas-fired powder coat curing oven, designated as MM-2, with a maximum heat input capacity of 0.850 mmBtu/hr and exhausts to a stack designated as Stack #17.

Two (2) natural gas-fired powder coat curing ovens, designated as MM-3 and MM-4, with a maximum heat input capacity of 1.2 mmBtu/hr each and exhaust to stacks designated as Stack #18 and Stack #19.

One (1) natural gas-fired powder coat curing oven, designated as MM-5, with a maximum heat input capacity of 0.350 mmBtu/hr and exhausts to a stack designated as Stack #6.

Three (3) natural gas-fired powder coat curing ovens, designated as MM-6, MM-7, and MM-9, with a maximum heat input capacity of 0.5 mmBtu/hr each and exhaust to stacks designated as Stack #8, Stack #9, and Stack #12.

Two (2) natural gas-fired drying ovens, designated as MM-8 and MM-11, with a maximum heat input capacity of 0.5 mmBtu/hr each and exhaust to stacks designated as Stack #10 and Stack #15.

One (1) natural gas-fired flash-off oven, designated as MM-10, with a maximum heat input capacity of 0.50 mmBtu/hr and exhausts to a stack designated as Stack #13.

One (1) natural gas-fired heat cleaning burn-off oven, designated as MM-26, with a maximum heat input capacity of 2.0 mmBtu/hr, a maximum waste capacity of 55 pounds per hour and exhausts to the atmosphere.

One (1) CTO evaporator, designated as MM-27, used to evaporate the water from the aqueous lines to minimize liquid waste and exhausts to a stack designated as Stack #20.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.2.1 Particulate Matter Limitation (PM) [326 IAC 6-2-4]

- (a) Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission limitations for sources of indirect heating), particulate emissions from indirect heating facilities constructed after September 21, 1983 shall be limited by the following equation:

$$P_t \leq \frac{1.09}{Q^{0.26}}$$

Where P_t = Pounds of particulate matter emitted
: per million Btu (lb/mmBtu) heat input.

Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

- (b) $Pt = 1.09 / (4.184^{0.26}) = 0.75 \text{ lb/mmBtu}$, but since Pt shall not exceed 0.6 lb/mmBtu, Pt is equal to 0.6 lb/mmBtu.

D.2.2 Particulate Matter (PM) [326 IAC 4-2-2]

Pursuant to 326 IAC 4-2-2 (Incinerators), all incinerators shall not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air.

Compliance Determination Requirements

D.2.3 Incinerator [326 IAC 4-2-2]

Pursuant to 326 IAC 4-2-2 (Incinerators), all incinerators shall:

- (a) consist of primary and secondary chambers or the equivalent;
- (b) be equipped with a primary burner unless burning wood products;
- (c) comply with 326 IAC 5-1 and 326 IAC 2;
- (d) be maintained properly as specified by the manufacturer and approved by the commissioner;
- (e) be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner;
- (f) comply with other state and/or local rules or ordinances regarding installation and operation of incinerators;
- (g) be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented;
- (h) not create a nuisance or a fire hazard.

D.2.4 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test the emissions' units by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Conditions D.2.1 and 2.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

Four (4) aluminum oxide blast units, designated as MM-22 through MM-25, with actual density of 130 pounds per cubic foot, MM-22 through MM-24 each have a nozzle with an internal diameter of 4/16 inches and MM-25 has a nozzle with an internal diameter of 5/16 inches, each controlled by a baghouse (designated as B-1, B-2, B-3 and B-7) and exhaust internally.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.3.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) from the four (4) aluminum oxide pneumatic blast units shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

$$E_{22} = 4.10 * (551.5 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb})^{0.67} = 1.79 \text{ lb/hr for MM-22;}$$

$$E_{23} = 4.10 * (551.5 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb})^{0.67} = 1.79 \text{ lb/hr for MM-23;}$$

$$E_{24} = 4.10 * (551.5 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb})^{0.67} = 1.79 \text{ lb/hr for MM-24; and}$$

$$E_{25} = 4.10 * (383.4 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb})^{0.67} = 1.35 \text{ lb/hr for MM-25.}$$

Compliance Determination Requirements

D.3.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test the emissions' units by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Conditions D.3.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.3.3 Particulate Matter (PM)

The baghouses for PM control shall be in operation at all times when the sand abrasive booth is in operation and exhausting to the outside atmosphere.

D.3.4 Visible Emissions Notations

- (a) Daily visible emission notations of the sand abrasive booth stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.3.5 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the blasting operations when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.3.6 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping Requirement [326 IAC 2-8-4(3)]

D.3.7 Record Keeping Requirements

- (a) To document compliance with Condition D.3.4, the Permittee shall maintain records of daily visible emission notations of the sand abrasive booth stack exhaust.
- (b) To document compliance with Condition D.3.5, the Permittee shall maintain records of the results of the inspections, parts replaced and corrective actions taken if necessary.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Modern Materials, Inc.
Address:	435 State Road 25 North Rochester
City:	Rochester
Phone #:	(219) 223-4509
MSOP #:	049-13642-00020

I hereby certify that Modern Materials, Inc. is ☒ still in operation.
☐ no longer in operation.

I hereby certify that Modern Materials, Inc. is ☒ in compliance with the requirements of MSOP 049-13642-00020.
☐ not in compliance with the requirements of MSOP 049-13642-00020.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: Modern Materials, Inc. PHONE NO. (219-) 223-4509

LOCATION: (CITY AND COUNTY) Rochester/Fulton

PERMIT NO. 049-13642 FS PLANT ID: 049-00020 AFS POINT ID: _____ INSP: _____

CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND
REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/19____ AM /
PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION:

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/19____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

**Indiana Department of Environmental Management
Office of Air Quality**

**Technical Support Document (TSD) for a New Source Construction and
Minor Source Operating Permit**

Source Background and Description

Source Name: Modern Materials, Inc.
Source Location: 435 State Road 25 North, Rochester, IN 46975
County: Fulton
SIC Code: 3479
Operation Permit No.: 049-13642-00020
Permit Reviewer: Nysa L. James

The Office of Air Quality (OAQ) has reviewed an application from Modern Materials relating to the construction and operation of an automotive coater operation.

Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) natural gas-fired boiler, designated as MM-1, with a maximum heat input capacity of 4.18 mmBtu/hr and exhausts to a stack designated as Stack #1.
- (b) One (1) natural gas-fired powder coat curing oven, designated as MM-2, with a maximum heat input capacity of 0.850 mmBtu/hr and exhausts to a stack designated as Stack #17.
- (c) Two (2) natural gas-fired powder coat curing ovens, designated as MM-3 and MM-4, with a maximum heat input capacity of 1.2 mmBtu/hr each and exhaust to stacks designated as Stack #18 and Stack #19.
- (d) One (1) natural gas-fired powder coat curing oven, designated as MM-5, with a maximum heat input capacity of 0.350 mmBtu/hr and exhausts to a stack designated as Stack #6.
- (e) Three (3) natural gas-fired powder coat curing ovens, designated as MM-6, MM-7, and MM-9, with a maximum heat input capacity of 0.5 mmBtu/hr each and exhaust to stacks designated as Stack #8, Stack #9, and Stack #12.
- (f) Two (2) natural gas-fired drying ovens, designated as MM-8 and MM-11, with a maximum heat input capacity of 0.5 mmBtu/hr each and exhaust to stacks designated as Stack #10 and Stack #15.
- (g) One (1) natural gas-fired flash-off oven, designated as MM-10, with a maximum heat input capacity of 0.50 mmBtu/hr and exhausts to a stack designated as Stack #13.
- (h) Four (4) aluminum oxide blast units, designated as MM-22 through MM-25, with actual density of 130 pounds per cubic foot, nozzle internal diameter of 5/16 inches, each controlled by a baghouse (designated as B-1, B-2, B-3 and B-7) and exhaust to a roof vent designated as V-1.

- (i) Two (2) alkaline wash areas, with a total maximum capacity of 6,150 pounds per hour and exhaust to the atmosphere.
- (j) Four (4) pretreatment/cleaning iron/zinc phosphate treatment areas, with a total maximum capacity of 8,040 pounds per hour and exhaust to the atmosphere.
- (k) One (1) natural gas-fired heat cleaning burn-off oven, designated as MM-26, with a maximum heat input capacity of 2.0 mmBtu/hr, a maximum waste capacity of 55 pounds per hour and exhausts to the atmosphere.
- (l) One (1) hand solvent wash area, designated as MM-27 and exhausts to the atmosphere.
- (m) Three (3) "Job Shop Line" HVLP paint booths, designated as MM-13 through MM-16, with a total maximum paint usage rate of 0.188 gallons per hour, particulate matter controlled by dry filters and exhaust to stacks designated as Stack #2 through Stack #5.
- (n) One (1) "Regular Shaft Line" HVLP paint booth, designated as MM-12, with a maximum paint usage rate of 0.206 gallons per hour, particulate matter controlled by a dry filter and exhausts to a stack designated as Stack #16.
- (o) One (1) "Flanged Shaft Line" HVLP paint booth, designated as MM-17, with a maximum paint usage rate of 0.342 gallons per hour, particulate matter controlled by a dry filter and exhausts to a stack designated as Stack #11.
- (p) One (1) "Frame Line" HVLP paint booth, designated as MM-18, with a maximum paint usage rate of 1.00 gallons per hour, particulate matter controlled by a dry filter and exhausts to a stack designated as Stack #14.
- (q) Three (3) powder coat booths, designated as MM-19 through MM-21, each containing an integral recirculation system consisting of a baghouse and exhausts internally.
- (r) One (1) CTO evaporator, designated as MM-27, used to evaporate the water from the aqueous lines to minimize liquid waste and exhausts to a stack designated as Stack #20.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the baghouses be considered as an integral part of the powder coat booths:

- (a) The powder coat booths are set up with a recovery system that is 99.9% efficient, to allow for the recovery and reuse of the powder. These booths are located inside a sealed room to prevent any release to the environment.

IDEM, OAQ has evaluated the justifications and agreed that the baghouses will be considered as an integral part of the powder coat booths. Therefore, the permitting level will be determined using the potential to emit after the baghouses. Operating conditions in the proposed permit will specify that these baghouses shall operate at all times when the powder coat booths are in operation.

Stack Summary (need additional stack information)

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S-1	natural gas-fired boiler	18	1.0	733	375
S-2 through S-5	"Job Shop Line" paint booths	18	1.5	5,000	Ambient
S-6	curing oven	18	1.5	3,967	Ambient

S-7	powder coat booth	18	1.5	3,967	
S-8	curing oven	18	1.5	3,967	Ambient
S-9	curing oven	18	1.5	3,967	Ambient
S-10	drying ovens	18	1.5	3,967	300
S-11	"Flanged Shaft Line" paint booth	18	2.0	3,967	Ambient
S-12	curing oven	18	2.0	3,967	350
S-13	flash-off oven	20	2.0	3,967	350
S-14	"Frame Line" paint booth	20	2.0	3,967	Ambient
S-15	drying oven	18	2.0	3,967	150
S-16	"Regular Shaft Line" paint booth	20	1.5	4,000	Ambient
S-17	curing oven	20	1.0	Undetermined	550
S-18	powder coat booth	20	1.0	Undetermined	550
S-19	powder coat booth	20	1.33	1,481	1,450
S-20	CTO evaporator	20	1.17	1,139	1,800

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 27, 2000, with additional information received on January 11, 2001, January 23, 2001, February 9, 2001 and February 26, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (thirteen (13) pages).

There are no VOC emissions from the alkaline wash areas and pretreatment/cleaning iron/zinc phosphate treatment areas.

There are no VOC emissions and negligible PM/PM₁₀ emissions from the powder coat booths.

There are no VOC emissions from the hand was area since the solvent used does not contain any VOC.

The source submitted documentation to show that the actual density is 130 lb/ft³ instead of the density listed in Stappa/Alapco (150 lb/ft³).

Potential To Emit (of Source) Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation

is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	106.37
PM-10	106.71
SO ₂	0.33
VOC	51.22
CO	6.13
NO _x	6.28

HAP's	Potential To Emit (tons/year)
Xylene	7.41
Toluene	2.46
Ethylbenzene	1.31
MEK	0.70
MIK	1.18
Glycol Ethers	4.49
Cobalt Compounds	0.05
Chromium Compounds	0.82
Antimony Compounds	4.39
Lead Compounds	0.03
Manganese Compounds	0.02
TOTAL	22.86

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM₁₀ is greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. This new source shall apply for a Part 70 (Title V) operating permit within twelve (12) months after this source becomes subject to Title V.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3.

County Attainment Status

The source is located in Fulton County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Fulton County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Fulton County has been classified as attainment or unclassifiable for SO₂, PM₁₀ and CO. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	2.60
PM10	2.94
SO ₂	0.33
VOC	51.22
CO	6.13
NO _x	6.28
Worst Case Single HAP	7.41
Combination HAPs	22.86

- (a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) at least one of the criteria pollutant is greater than or equal to 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is greater than or equal to 10 tons per year, or
- (c) any combination of HAPs is greater than or equal to 25 tons/year.

This new source shall apply for a Part 70 (Title V) operating permit within twelve (12) months after this source becomes subject to Title V.

Federal Rule Applicability

- (a) The natural gas-fired boiler is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart D), because the heat input capacity of the boiler is less than 10 mmBtu/hr.
- (b) The incinerator is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60, Subpart E), because the waste throughput is less than 50 tons per day.
- (c) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (d) 40 CFR Part 63, Subpart T (Halogenated Solvent Cleaning) does not apply to the cleaning areas because the solvent used by the areas does not contain any HAPs.
- (e) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of Pm and PM₁₀. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations):

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Natural Gas-Fired Boiler (MM-1)

326 IAC 6-2-4 (Particulate Matter Emission limitations for sources of indirect heating):

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission limitations for sources of indirect heating), particulate emissions from indirect heating facilities constructed after September 21, 1983 shall be limited by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where Pt = Pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input.

Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

For Q less than 10 mmBtu/hr, Pt shall not exceed 0.6. For Q greater than or equal to 10,000 mmBtu/hr, Pt shall not exceed 0.1. Figure 2 may be used to estimate allowable emissions.

$Pt = 1.09/(4.184^{0.26}) = 0.75 \text{ lb/mmBtu}$, but since Pt shall not exceed 0.6 lb/mmBtu, Pt is equal to **0.6 lb/mmBtu**.

326 IAC 8-1-6 (New facilities; general reduction requirements) does not apply to the boiler because the potential to emit of VOC is less than 25 tons per year.
No other 326 IAC 8 rules apply.

State Rule Applicability - Aluminum Oxide Blast Units (MM-22 through MM-25)

326 IAC 6-3-2 (Process Operations):

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) from the four (4) aluminum oxide pneumatic blast units shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

$$\begin{aligned} E_{22} &= 4.10 * (551.5 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb})^{0.67} = 1.79 \text{ lb/hr for MM-22;} \\ E_{25} &= 4.10 * (551.5 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb})^{0.67} = 1.79 \text{ lb/hr for MM-23;} \\ E_{25} &= 4.10 * (551.5 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb})^{0.67} = 1.79 \text{ lb/hr for MM-24; and} \\ E_{25} &= 4.10 * (383.4 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb})^{0.67} = 1.35 \text{ lb/hr for MM-25.} \end{aligned}$$

The baghouses shall be in operation at all times the aluminum oxide pneumatic blast units are in operation, in order to comply with this limit.

No 326 IAC 8 rules apply since there are no VOC emissions from the process.

State Rule Applicability - Paint Booths (MM-12 through MM-18)

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)):

The operation of the paint booths will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs per booth. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) from the six (6) paint booths (designated as MM-12 through MM-18) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The dry filters shall be in operation at all times the paint booths are in operation, in order to comply with this limit.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the spray booths designated as MM12 through MM-18, shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried and extreme performance coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the spray booth is in compliance with this requirement.

State Rule Applicability - Powder Coat Booths (MM-19 through MM-21)

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) from the three (3)

powder coat booths (designated as MM-19 through MM-21) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The baghouses, which are part of the integral recovery system, shall be in operation at all times the powder coat booths are in operation, in order to comply with this limit.

State Rule Applicability - Heat Cleaning Burn-off Oven (MM-26)

326 IAC 4-2-2 (Incinerators):

Pursuant to 326 IAC 4-2-2 (Incinerators), all incinerators shall:

- (a) consist of primary and secondary chambers or the equivalent;
- (b) be equipped with a primary burner unless burning wood products;
- (c) comply with 326 IAC 5-1 and 326 IAC 2;
- (d) be maintained properly as specified by the manufacturer and approved by the commissioner;
- (e) be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner;
- (f) comply with other state and/or local rules or ordinances regarding installation and operation of incinerators;
- (g) be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented;
- (h) not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air; and
- (i) not create a nuisance or a fire hazard.

326 IAC 6-3 (Process Operations) does not apply to the burn-off oven because the PM emissions from the oven are already governed by 326 IAC 4-2.

326 IAC 8-1-6 (New facilities; general reduction requirements) does not apply to the burn-off oven because the potential to emit of VOC is less than 25 tons per year.

No other 326 IAC 8 rules apply.

State Rule Applicability - Cleaning Areas

326 IAC 8-3 (Organic Solvent Degreasing Operations) does not apply to the pretreatment/cleaning iron/zinc phosphate treatment areas, alkaline wash areas and hand wash area because there are no VOCs emitted from these processes.

Conclusion

The construction and operation of this automotive coater operation shall be subject to the conditions of the attached proposed **New Source Construction and Minor Source Operating Permit 149-13642-00020**.

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Part 70 Operating Permit New Source Construction and Minor Source Operating Permit

Source Name: Modern Materials, Inc.
 Source Location: 435 State Road 25 North, Rochester, IN 46975
 County: Fulton
 SIC Code: 3479
 Operation Permit No.: 049-13642-00020
 Permit Reviewer: Nysa L. James

On March 15, 2001, the Office of Air Quality (OAQ) had a notice published in the Rochester Sentinel, Rochester, Indiana, stating that Modern Materials, Inc. had applied for a New Source Construction and Minor Source Operating Permit to construct and operate an automotive coater operation. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On March 20, 2001, Modern Materials, Inc. submitted comments on the proposed construction and operating permit. The summary of the comments and corresponding responses is as follows (changes are bolded and crossed out for emphasis):

Comment 1: Three of the aluminum oxides blasters, designated as MM-22 through MM-24, have a nozzle with an internal diameter of 4/16 inches instead of 5/16 inches. Based on the emissions using 4/16 inches as the internal diameter, the source's potential to emit of PM₁₀ is less than 100 tons per year. Therefore, this source should not be subject to the requirements of the Part 70 Operating Permit. In addition, the blasters do not vent to any stack or vent of any kind.

Response 1: Based on the application submitted, the nozzles for the above mentioned units, were listed with an internal diameter of 5/16 inches and exhausted to a general vent designated as V-1. However, the OAQ does recognize that information does change through the review process. Therefore the descriptive information listed in Section A.2(h) and D.3 are revised as follows (changes are bolded and crossed out for emphasis):

Four (4) aluminum oxide blast units, designated as MM-22 through MM-25, with actual density of 130 pounds per cubic foot, **MM-22 through MM-24 each have a nozzle with an internal diameter of 4/16 inches and MM-25 has a nozzle with an internal diameter** of 5/16 inches, each controlled by a baghouse (designated as B-1, B-2, B-3 and B-7) and exhaust **internally to a roof vent designated as V-1.**

In addition, the potential to emit of PM and PM₁₀ of this source is revised to reflect the new internal diameter of the blasters' nozzles. The potential to emit spreadsheet for the associated blaster units, is revised and attached in Appendix A (page 1 of 13). The revised potential to emit is as follows (changes are bolded and crossed out for emphasis):

Pollutant	Potential To Emit (tons/year)
PM	406.37 77.9
PM-10	406.74 78.24
SO ₂	0.33
VOC	51.22
CO	6.13
NO _x	6.28

Also, since the potential to emit is now below 100 tons per year for all criteria pollutants, the source is no longer subject to the Part 70 Operating Permit requirements. Therefore, Condition A.3, Part 70 Permit Applicability, is revised as follows (changes are bolded and crossed out for emphasis):

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

~~This new source is subject to the Part 70 Permit requirements because the potential to emit (PTE) of:~~

- ~~(a) at least one of the criteria pollutant is greater than or equal to 100 tons per year,~~
- ~~(b) a single hazardous air pollutant (HAP) is greater than or equal to 10 tons per year, or~~
- ~~(c) any combination of HAPs is greater than or equal to 25 tons/year.~~

~~This new source shall apply for a Part 70 (Title V) operating permit within twelve (12) months after this source becomes subject to Title V.~~

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,**
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and**
- (c) any combination of HAPs is less than 25 tons/year.**

This is the first air approval issued to this source.

Comment 2: The descriptions listed under Sections A.2(i), A.2(j) and D.1 for the cleaning operations, should be revised to more accurately describe such operations. The suggested language is as follows:

“Three (3) five-stage* zinc phosphate lines with a total approximate maximum capacity of 8,040 pounds per hour and exhaust to the atmosphere. One (1) five-stage* iron phosphate line with a total approximate maximum capacity of 8,040 pounds per hour and exhaust to the atmosphere.

* a standard five-stage line consists of the following stages: Alkaline wash, pressure Rinse, Phosphate, Pressure Rinse, Seal.”

Response 2: Because facility descriptions are not federally enforceable and the requested revision does not affect the potential to emit, OAQ agrees with the requested description revision.

Therefore, Sections A.2(i) and (j) are incorporated into one section as A.2(i) where the following descriptions listed are re-lettered accordingly to reflect the description change and Section D.1 is revised accordingly on the same basis. The revisions are as follows (changes are bolded and crossed out for emphasis):

(i) ~~Two (2) alkaline wash areas, with a total maximum capacity of 6,150 pounds per hour and exhaust to the atmosphere.~~

~~(j) Four (4) pretreatment/cleaning iron/zinc phosphate treatment areas, with a total maximum capacity of 8,040 pounds per hour and exhaust to the atmosphere.~~

Three (3) five-stage* zinc phosphate lines with a total approximate maximum capacity of 8,040 pounds per hour and exhaust to the atmosphere. One (1) five-stage* iron phosphate line with a total approximate maximum capacity of 8,040 pounds per hour and exhaust to the atmosphere.

*** a standard five-stage line consists of the following stages: Alkaline wash, pressure Rinse, Phosphate, Pressure Rinse, Seal.**

Comment 3: Condition D.1.7 should be removed from the permit because the source's stacks are located on the roof and are well over 20 feet in the air. Inspection of the roof is difficult and it would be impractical and unsafe to require an inspector to be up there every week or even every month.

Response 3: Compliance monitoring conditions are in the permit in order to ensure continuous compliance with the requirements. By removing the compliance monitoring requirements listed in Condition D.1.7, there would be no way to ensure that the filters are operating properly. If there is no way to know if the filters are operating properly, then the OAQ would not know if the facilities listed in Section D.1 are in compliance with 326 IAC 6-3-2. Filter failure can occur suddenly; therefore monitoring of overspray and filter operational parameters should be performed.

During times of inclement weather, it is expected that the source would not perform rooftop inspections. During times of normal weather conditions, overspray inspections should be performed. There is no change to the permit.

Comment 4: Since the blaster units do not exhaust through a stack or vent, there is no emission point. Therefore, the testing requirements listed in Condition D.3.2 should be removed.

Response 4: These units have no specific stack or vent, but they do exhaust inside the building and thus exhaust to the atmosphere through the building's general ventilation system. The OAQ does not believe that the emissions from such units will remain inside the building and never exhaust to the atmosphere. In addition, Condition D.3.2, does not require testing of the units but does state that the OAQ does have the right to require it if deemed necessary. In times where testing would be required, the source can build a temporary stack in order to perform such testing. This technique has been performed by other sources within the State of Indiana. Based on this, no change has been made to the permit.

Comment 5: Since the blaster units do not exhaust through a stack or vent, there is no emission point. Therefore, the visible emission notations listed in Condition D.3.4 should be removed.

Response 5: These units have no specific stack or vent, but they do exhaust inside the building and thus exhaust to the atmosphere through the building's general ventilation system. The OAQ does not believe that the emissions from such units will remain inside the building

and never exhaust to the atmosphere. In addition, compliance monitoring conditions are in the permit in order to ensure continuous compliance with the requirements. Therefore, no change is made to the permit.

Comment 6: Condition D.3.5 lists inspections of the bags controlling the woodworking operation. We do not have any woodworking operations.

Response 6: Condition D.3.5, Baghouse Inspections, is revised to correct the typographical error listing “woodworking”. This should be blasting operations. This condition is revised as follows (changes are bolded and crossed out for emphasis):

D.3.5 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the ~~woodworking~~ **blasting** operations when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

Comment 7: Documentation of inspections specified in sections D.3.4 and D.3.5 is not possible since those sections are incorrect.

Response 7: The compliance monitoring requirements listed in Conditions D.3.4 and D.3.5 are necessary in order to ensure that the blaster units are in compliance with the emission limitation listed in Condition D.3.1. In regards to the blaster units not being considered emission points, see Response #5.

Comment 8: On page 5 of the TSD, the source is listed as being subject to the Part 70 Operating Permit Requirements. There is no emission point and thus no emissions associated with our blaster units. Therefore, the requirements of the Part 70 Operating Permit do not apply to our source.

Response 8: Since the source has changed the internal diameter of blasting units MM-24 through MM-24 from 5/16 inches to 4/16 inches, the potential to emit of the source is less than 100 tons per year. This change has been noted under Response #1 and changed in the permit under Section A.3.

The question whether the blasting units are emission points has already been addressed under Response #3.

In regards to changing the technical support document, the Office of Air Quality (OAQ) corrects permit errors in the form of a technical support addendum. The original technical support document does not change from the first proposal in order to maintain the integrity of the review process. The technical support document is utilized as a technical tool that allows the source to understand OAQ’s decision in a more detailed manner. This document is not an enforceable document, but an aid to the source’s permit.

Appendix A: Emission Calculations

Abrasive Blasting - MM-22-MM-24

Company Name: Modern Materials, Inc.
Address City IN Zip: 435 State Road 25, Rochester, IN 46975
CP: 049-13642
Plt ID: 049-00020
Reviewer: Nysa L. James
Date: 01-03-01

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

Actual - 130

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
 FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
 D = Density of abrasive (lb/ft3) From Table 2 =
 D1 = Density of sand (lb/ft3) =
 ID = Actual nozzle internal diameter (in) =
 ID1 = Nozzle internal diameter (in) from Table 3 =

255
130
99
0.3125
0.3125

Flow Rate (FR) (lb/hr) = 334.848 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
 FR = Flow Rate (lb/hr) =
 w = fraction of time of wet blasting =
 N = number of nozzles =

0.010
334.848
0
1

Uncontrolled Emissions =	3.35 lb/hr
One unit	14.67 ton/yr
three units	44.00 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)² x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations

Abrasive Blasting - MM-25

Company Name: Modern Materials, Inc.
Address City IN Zip: 435 State Road 25, Rochester, IN 46975
CP: 049-13642
Plt ID: 049-00020
Reviewer: Nysa L. James
Date: 01-03-01

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)	Actual - 130
Al oxides	160	
Sand	99	
Steel	487	

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

292
130
99
0.3125
0.3125

Flow Rate (FR) (lb/hr) = 383.434 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.010
383.434
0
1

Uncontrolled Emissions =	3.83 lb/hr
One unit	16.79 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)
Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs
Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)
E = EF x FR x (1-w/200) x N
w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****One (1) natural gas-fired boiler****Company Name: Modern Materials, Inc.****Address City IN Zip: 400 East 4th Street, Rochester, IN 46975****CP: 049-13642****Pit ID: 049-00020****Reviewer: Nysa L. James****Date: 01-03-01**Heat Input Capacity
MMBtu/hrPotential Throughput
MMCF/yr

4.8

42.2

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.04	0.16	0.01	2.11	0.12	1.77

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	4.428E-05	2.530E-05	1.581E-03	3.795E-02	7.169E-05

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.054E-05	2.319E-05	2.952E-05	8.012E-06	4.428E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations
Frame Line
Company Name: Modern Materials, Inc.
Address City IN Zip: 400 East 4th Street, Rochester, IN 46975
CP: 049-13642
Pit ID: 049-00020
Reviewer: Nysa L. James
Date: 01-24-2001

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
300-Medium Glass Black	8.0	45.00%	0.0%	45.0%	0.0%	55.00%	0.00150	428.000	3.60	3.60	2.31	55.40	10.11	3.09	6.54	75%
300-High Gloss Black	8.0	45.00%	0.0%	45.0%	0.0%	55.00%	0.00160	0.190	3.60	3.60	0.00	0.03	0.00	0.00	6.54	75%
300-1010	9.6	53.00%	29.6%	23.4%	33.5%	39.00%	0.00105	214.000	3.38	2.25	0.50	12.11	2.21	1.11	5.76	75%
300-5251/840	10.0	47.10%	0.0%	47.1%	0.0%	39.80%	0.00109	214.000	4.71	4.71	1.10	26.37	4.81	1.35	11.83	75%
300-Cortec	8.8	100.00%	95.0%	5.0%	60.0%	40.00%	0.00271	210.000	1.10	0.44	0.25	6.01	1.10	0.00	1.10	75%

0.00795

Average lb/gal less H2O

5.62E-03
6.00E-03
3.08E-03
4.28E-03
2.82E-03
2.18E-02

2.74

State Potential Emissions

Add worst case coating to all solvents

4.16

99.92

18.23

5.55

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Eleven (11) various natural gas-fired ovens****Company Name: Modern Materials, Inc.****Address City IN Zip: 400 East 4th Street, Rochester, IN 46975****CP: 049-13642****Pit ID: 049-00020****Reviewer: Nysa L. James****Date: 01-03-01**Heat Input Capacity
MMBtu/hrPotential Throughput
MMCF/yr

8.6

75.3

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.07	0.29	0.02	3.77	0.21	3.16

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	7.910E-05	4.520E-05	2.825E-03	6.780E-02	1.281E-04

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.883E-05	4.143E-05	5.274E-05	1.431E-05	7.910E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations
Incinerator**

Company Name: Modern Materials, Inc.
Address City IN Zip: 400 East 4th Street, Rochester, IN 46975
CP: 049-13642
Pit ID: 049-00020
Reviewer: Nysa L. James
Date: 01-24-2001

THROUGHPUT
lbs/hr
55

THROUGHPUT
ton/yr
240.9

	POLLUTANT				
	PM	SO2	CO	VOC	NOX
Emission Factor in lb/ton	7.0	2.5	10.0	3.0	3.0
Potential Emissions in ton/yr	0.8	0.3	1.2	0.4	0.4

Methodology

Emission factors are from AP 42 (5th Edition 1/95) Table 2.1-12, Uncontrolled emission factors for industrial/commercial refuse combustors, multiple chambers

Throughput (lb/hr) * 8760 hr/yr * ton/2000 lb = throughput (ton/yr)

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations
Job Shop**

Company Name: Modern Materials, Inc.
Address City IN Zip: 400 East 4th Street, Rochester, IN 46975
CP: 049-13642
Plt ID: 049-00020
Reviewer: Nysa L. James
Date: 02-06-2001

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
300-103	8.2	79.25%	39.3%	40.0%	40.7%	60.02%	0.00198	2.920	5.52	3.28	0.02	0.45	0.08	0.01	5.46	75%
300-218	8.5	73.10%	0.0%	73.1%	0.0%	17.80%	0.00641	26.400	6.24	6.24	1.06	25.35	4.63	0.43	35.07	75%
300-1010	9.6	53.00%	29.6%	23.4%	33.5%	39.00%	0.00641	1.430	3.38	2.25	0.02	0.49	0.09	0.05	5.76	75%
300-27A	9.0	64.67%	0.0%	64.7%	0.0%	16.57%	0.00091	1.290	5.85	5.85	0.01	0.16	0.03	0.00	35.28	75%
300-Hi Temp Black	8.8	50.57%	0.0%	50.6%	0.0%	41.00%	0.00496	0.790	4.45	4.45	0.02	0.42	0.08	0.02	10.85	75%
300-1331	9.6	53.00%	29.6%	23.4%	33.5%	39.00%	0.00534	0.120	3.38	2.25	0.00	0.03	0.01	0.00	5.76	75%
300-Black Waterborne	9.1	57.58%	40.3%	17.3%	43.8%	33.91%	0.00894	214.000	2.80	1.57	3.01	72.13	13.16	8.06	4.63	75%
300-Acrylic Black	8.6	63.00%	55.5%	7.5%	58.1%	99.93%	0.00894	5.470	1.54	0.65	0.03	0.76	0.14	0.17	0.65	75%
300-Conductive	8.6	64.20%	55.5%	8.7%	58.1%	99.93%	0.00894	5.470	1.79	0.75	0.04	0.88	0.16	0.16	0.75	75%
300-Cortec	8.8	100.00%	95.0%	5.0%	0.0%	40.00%	0.00488	210.000	0.44	0.44	0.45	10.82	1.97	0.00	1.10	75%
300-CAT Yellow	9.3	36.06%	0.0%	36.1%	0.0%	51.00%	0.00661	0.160	3.35	3.35	0.00	0.09	0.02	0.01	6.57	75%
300-White	10.8	29.35%	0.0%	29.4%	0.0%	56.90%	0.00496	0.001	3.17	3.17	0.00	0.00	0.00	0.00	5.57	75%
300-High Gloss	8.0	48.00%	0.0%	48.0%	0.0%	55.00%	0.00496	2.210	3.84	3.84	0.04	1.01	0.18	0.05	6.97	75%
300-DRA Gray	8.0	48.00%	0.0%	48.0%	0.0%	55.00%	0.00496	19.000	3.84	3.84	0.36	8.67	1.58	0.43	6.97	75%

0.07920

METHODOLOGY

22.13 **9.39**
Avergae lb/gal less H2O

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

1.11E-02
3.90E-02
1.88E-02
4.90E-03
2.09E-02
1.57E-02
2.30E-02
1.33E-02
1.55E-02
2.03E-03
1.99E-02
1.21E-02
1.98E-02
1.98E-02
2.36E-01

2.98

From Surface Coating Operations
Shaft Flanged Line
Company Name: Modern Materials, Inc.
Address City IN Zip: 400 East 4th Street, Rochester, IN 46975
CP: 049-13642
Plt ID: 049-00020
Reviewer: Nysa L. James
Date: 02-06-2001

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
300-103	8.2	79.25%	39.3%	40.0%	40.7%	60.02%	0.00017	2000.000	5.52	3.28	1.11	26.73	4.88	0.63	5.46	75%
300-Cortec	8.8	100.00%	95.0%	5.0%	60.0%	40.00%	0.00017	1429.000	1.10	0.44	0.11	2.57	0.47	0.00	1.10	75%

0.00034

9.54E-04

1.77E-04

1.13E-03

3.33

State Potential Emissions

Add worst case coating to all solvents

1.22

29.29

5.35

0.63

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

Shaft Regular
Company Name: Modern Materials, Inc.
Address City IN Zip: 400 East 4th Street, Rochester, IN 46975
CP: 049-13642
Pit ID: 049-00020
Reviewer: Nysa L. James
Date: 02-06-2001

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
300-103	8.2	79.25%	39.3%	40.0%	40.7%	60.02%	0.00017	2000.000	5.52	3.28	1.11	26.73	4.88	0.63	5.46	75%
300-Cortec	8.8	100.00%	95.0%	5.0%	60.0%	40.00%	0.00001	1429.000	1.10	0.44	0.00	0.08	0.02	0.00	1.10	75%

State Potential Emissions

Add worst case coating to all solvents

1.11

26.81

4.90

0.63

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
 Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
 Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
 Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
 Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
 Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
 Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
 Total = Worst Coating + Sum of all solvents used

Appendix A: Emissions Calculations

HAP Emissions

From Surface Coating Operations

Shaft Regular

Company Name: Modern Materials, Inc.

Address City IN Zip: 400 East 4th Street, Rochester, IN 46975

CP: 049-13642

Plt ID: 049-00020

Reviewer: Nysa L. James

Date: 02-27-2001

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Toluene	Weight % Lead Compound	Weight % Antimony Compounds	Weight % Methyl Isobutyl Ketone	Weight % Methyl Ethyl Ketone	Toluene Emissions (ton/yr)	Lead Compound Emissions (ton/yr)	Antimony Compounds Emissions (ton/yr)	MIK Emissions (ton/yr)	MEK Emissions (ton/yr)
300-103	8.19	0.000170	2000.00	10.00%	5.00%	5.00%	20.00%	10.00%	1.22	0.01	2.19	2.19E-04	2.19E-04

Total State Potential Emissions

1.22

0.01

2.19

2.19E-04

2.19E-04

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations

HAP Emissions

From Surface Coating Operations

Shaft Flanged Line

Company Name: Modern Materials, Inc.

Address City IN Zip: 400 East 4th Street, Rochester, IN 46975

CP: 049-13642

Plt ID: 049-00020

Reviewer: Nysa L. James

Date: 02-27-2001

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Toluene	Weight % Lead Compound	Weight % Antimony Compounds	Weight % Methyl Isobutyl Ketone	Weight % Methyl Ethyl Ketone	Toluene Emissions (ton/yr)	Lead Compound Emissions (ton/yr)	Antimony Compounds Emissions (ton/yr)	MIK Emissions (ton/yr)	MEK Emissions (ton/yr)
300-103	8.19	0.000170	2000.00	10.00%	5.00%	5.00%	20.00%	10.00%	1.22	0.01	2.19	2.19E-04	2.19E-04

Total State Potential Emissions

1.22 0.01 2.19 2.19E-04 2.19E-04

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations

HAP Emissions

From Surface Coating Operations
Frame Line

Company Name: Modern Materials, Inc.

Address City IN Zip: 400 East 4th Street, Rochester, IN 46975

CP: 049-13642

Plt ID: 049-00020

Reviewer: Nysa L. James

Date: 01-24-2001

Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Cobalt Compounds	Weight % Ethylbenzene	Weight % Methyl Ethyl Ketone	Weight % Glycol Ethers	Weight % Chromium Compounds	Xylene Emissions (ton/yr)	Cobalt Compounds' Emissions (ton/yr)	Ethylbenzene Emissions (ton/yr)	MEK Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)	Chromium Compounds' Emissions (ton/yr)
8	0.001500	428.00	28.00%	0.20%	5.00%	0.00%	0.00%	0.00%	6.30	0.04	1.12	0.00	0.00	0.00
8	0.001600	0.19	28.00%	0.20%	5.00%	0.00%	0.00%	0.00%	0.00	2.13E-05	5.33E-04	0.00	0.00	0.00
9.6	0.001050	214.00	0.00%	0.00%	0.00%	0.00%	12.80%	0.00%	0.00	0.00	0.00	0.00	1.21	0.00
10	0.001090	214.00	0.00%	0.00%	0.00%	6.50%	28.50%	8.00%	0.00	0.00	0.00	0.66	2.91	0.82

Emissions

6.30

0.05

1.13

0.66

4.12

0.82

1s/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations

HAP Emissions

From Surface Coating Operations

Job Shop

Company Name: Modern Materials, Inc.

Address City IN Zip: 400 East 4th Street, Rochester, IN 46975

CP: 049-13642

Pit ID: 049-00020

Reviewer: Nysa L. James

Date: 02-28-2001

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Formaldehyde	Weight % Ethylbenzene	Weight % MEK	Weight % Glycol Ethers	Weight % MIK	Weight % Antimony Compounds	Weight % Lead Compounds	Weight % Manganese Compounds	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Ethylbenzene Emissions (ton/yr)	MEK Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)	MIK Emissions (ton/yr)	Antimony Compound Emissions (ton/yr)	Lead Compound Emissions (ton/yr)	Manganese Compound Emissions (ton/yr)
300-103	8.2	0.001980	2.92	0.00%	10.00%	0.00%	0.00%	10.00%	0.00%	20.00%	5.00%	5.00%	0.00%	0.00	0.02	0.00	0.00	0.02	0.00	0.04	1.04E-02	1.04E-02	0.00E+00
300-218	8.5	0.006410	26.40	0.00%	0.00%	0.00%	0.00%	0.00%	5.00%	18.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.32	1.13	0.00E+00	0.00E+00	0.00E+00
300-1010	9.6	0.006410	1.43	0.00%	0.00%	0.00%	0.00%	0.00%	12.80%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00E+00	0.00E+00	0.00E+00
300-27A	9	0.000910	1.29	0.00%	0.00%	0.00%	0.00%	50.00%	10.00%	0.00%	5.00%	5.00%	0.00%	0.00	0.00	0.00	0.00	0.02	0.00	0.00	2.31E-03	2.31E-03	0.00E+00
300-Hi Temp Black	8.8	0.004960	0.79	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	10.00%	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	1.51E-02
300-1331	9.6	0.005340	0.12	0.00%	0.00%	0.00%	0.00%	0.00%	12.80%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00
300-CAT Yellow	9.3	0.006610	0.16	0.00%	0.00%	0.00%	0.00%	2.00%	0.00%	15.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00E+00	0.00E+00	0.00E+00
300-White	10.8	0.004960	0.00	19.00%	0.00%	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00
300-High Gloss	8	0.004960	2.21	28.00%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.11	0.00	0.00	0.02	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00
300-DRA Gray	8	0.004960	19.00	28.00%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.92	0.00	0.00	0.17	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00

Total Potential Emissions:

1.11 0.02 0.00 0.18 0.04 0.37 1.18 0.01 0.01 0.02

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs